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Researcher ID A-7104-2018

Education

University of Illinois, Department of Civil Engineering Urbana, IL
▪ PhD Environmental Engineering 1996
▪ MS Environmental Engineering 1991

California Institute of Technology Pasadena, CA
▪ BS Chemical Engineering 1989

Experience

1999–present NOAA/GMD and University of Colorado Boulder, CO

CIRES Research Scientist

- Data analysis of aerosol optical data related to climate change, long term trends in aerosol properties, aerosol transport and for global model evaluation
- Presentation of results in peer-reviewed journals and scientific conferences
- Supervision/mentoring of students doing aerosol research
- Laboratory and field maintenance of aerosol monitoring instruments
- Computer programming for data analysis and web-based instrument monitoring

1999-2000 CIRES Outreach Boulder, CO

CIRES Research Scientist

- Studied involvement and retention of scientists in outreach programs
- Supervised graduate students doing outreach research
- Participated in CIRES Earthworks for K-12 teachers course

1998-1999 University of Northern Colorado Greeley, CO

NSF PFSMETE Post-doc

- Studied factors influencing high school student interest in science
- Taught 'Introduction to environmental science' undergraduate elective
- Taught 'Air pollution and statistics' course to Upward Bound students.

1997-1998 Electric Power Research Institute Palo Alto, CA

Consultant

- Analyzed aerosol chemical, optical and gravimetric data from SEAVS field program

1996-1997 Colorado State University Fort Collins, CO

CIRA Post-doc

- Intercomparison of cloud droplet monitoring techniques
- Studied cloud-aerosol interactions

Awards

2009 Haagen-Smit Award for outstanding paper
2016 CIRES Technology Transfer Award for CLAP development
2014 CIRES Silver Medal Award for establishment of NOAA Network

Publications

In progress

- Andrews, E., Sheridan, P.J., Burgos, M., et al., "Climatology of aerosol properties at a coastal monitoring site in northern California," for submission to AAQR.
- Burgos, M., et al., "Evaluation of the hygroscopicity-driven light scattering enhancement and aerosol optical properties within 10 Earth System Models," for submission to Atmos. Chem. Phys. Disc.
- Ouimette, J., et al., "Evaluating the PurpleAir monitor as a low-cost cell-reciprocal nephelometer," for submission to Aerosol Sci. Technol.
- Schmeisser, L., Andrews, E., et al., "Comparison of Aerosol Optical Property Climatology Between In-situ Surface Measurements and Model Simulations," for submission to Atmos. Chem. Phys. Disc.

Submitted/In Review

- Ohata, S. Mori, T., Kondo, Y., Sharma, S., Hyvärinen, A., Andrews, E., Tunved, P., Asmi, E., Backman, J., Servomaa, H., Veber, D., Koike, M., Kanaya, Y., Yoshida, A., Moteki, N., Zhao, Y., Oshima, N., "Estimates of mass absorption cross sections of black carbon for filter-based absorption photometers in the Arctic," *Atmos Chem. Phys. Disc.*, doi:10.5194/acp-2020-1190, in review, 2020.
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- Titos, G., Burgos, M.A., Zieger, P., Alados-Arboledas, L., Baltensperger, U., Jefferson, A., Sherman, J., Weingartner, E., Henzing, B., Luoma, K., O'Dowd, C., Tunved, P., Wiedensohler, A., Andrews, E., "A global study of hygroscopicity-driven light scattering enhancement in the context of other in-situ aerosol optical properties," *Atmos. Chem. Phys. Disc.*, <https://doi.org/10.5194/acp-2020-1250>, in review, 2020.

Published/Accepted

- Gliss, J., Mortier, A., Schulz, M., Andrews, E., Balkanski, Y., Bauer, S.E., Benedictow, A.M.K., Bian, H., Checa-Garcia, R., Chin, M., Ginoux, P., Griesfeller, J.J., Heckel, A., Holben, B.N., Kinne, S., Kipling, Z., Kirkevåg, A., Kokkola, H. Laj, P., Le Sager, P., Levy, R., Lund, M.T., Lund Myhre, C., Matsui, H., Myhre, G., Neubauer, D., van Noije, T., North, P., Olivier, D.J.L.,

- Sogacheva, L., Takemura, T., Tsigaridis, K., Tsyro, S.G., "AeroCom phase III multi-model evaluation of the aerosol lifecycle and optical properties using ground and space based remote sensing as well as surface in situ observations," *Atmos. Chem. Phys.*, 21, 87–128, doi:10.5194/acp-21-87-2021, 2021.
- Burgos, M.A., Andrews, E., Titos, G., Benedetti, A., Bian, H., Buchard, V., Curci, G., Kipling, Z., Kirkevåg, A., Kokkola, H., Laakso, A., Letertre-Danczak, J., Lund, M., Matsui, H., Myhre, G., Randles, C., Schulz, M., van Noije, T., Zhang, K., Alados-Arboledas, L., Baltensperger, U., Jefferson, A., Sherman, J., Sun, J., Weingartner, E., Zieger, P., "A Global Model-Measurement Evaluation of Particle Light Scattering Coefficients at Elevated Relative Humidity," *Atmos. Chem. Phys.*, 20, 10231–10258, <https://doi.org/10.5194/acp-20-10231-2020>, 2020.
- Collaud Coen, M., Andrews, E., Alastuey, A., Arsov, T.P., Backman, J., Brem, B.T., Bukowiecki, N., Couret, C., Eleftheriadis, K., Flentje, H., Fiebig, M., Gysel-Beer, M., Hand, J.L., Hoffer, A., Hooda, R., Huiglin, C., Joubert, W., Keywood, M., Kim, J.E., Kim, S.-W., Laubschagne, C., Lin, N.-H., Lin, Y., Lund Myhre, C., Luoma, K., Lyamani, H., Marinoni, A., Mayol-Bracero, O.L., Mihalopoulos, N., Pandolfi, M., Prats, N., Prenni, A.J., Putaud, J.-P., Ries, L., Reisen, F., Sellegri, K., Sharma, S., Sheridan, P., Sherman, J.P., Sun, J., Titos, G., Torres, E., Tuch, T., Weller, R., Wiedensohler, A., Zieger, P., Laj, P., Multi-decadal trend analysis on aerosol radiative properties at a global scale," *Atmos. Chem. Phys.* 20, 8867-8908, doi:10.5194/acp-20-8867-2020, 2020.
- Collaud Coen, M., Andrews, E., Bigi, A., Romanens, G., Martucci, G., Romanens, G., Vogt, F.P.A., Vuilleumier, L., "Effects of the prewhitening method, the time granularity and the time segmentation on the Mann-Kendall trend detection and the associated Sen's slope," *Atmos. Meas. Tech.*, 13, 6945–6964, [10.5194/amt-13-6945-2020](https://doi.org/10.5194/amt-13-6945-2020), 2020.
- Laj, P., Bigi, A., Rose, C., Andrews, E., Lund Myhre, C., Collaud Coen, M., Wiedensohler, A., Schulz, M., and 90 co-authors, "A global analysis of climate-relevant aerosol properties retrieved from the network of GAW near-surface observatories," *Atmos. Meas. Tech.*, 13, 4353–4392, <https://doi.org/10.5194/amt-13-4353-2020>, 2020.
- Lambert, A., Hallar, A.G., Garcia, M., Strong, C., Andrews, E., Hand, J.L., "Dust impacts of rapid agricultural expansion on the Great Plains," *Geophys. Res. Lett.*, 47, <https://doi.org/10.1029/2020GL090347>, 2020.
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